

WHAT IS CLAIMED IS

1 1. A method for determining MAC address for a remote device having a
2 known, unique DEK in a network where devices may not send a confirmation to a
3 *SetNEK* request, the method comprising the steps of:

4 preparing a broadcast message with a *SetNEK* request containing a
5 unique, temporary *NEK*;

6 encrypting the message with the DEK of the remote device;

7 transmitting the broadcast message on a network medium;

8 confirming receipt of the temporary *NEK* by sending a request that
9 requires a response from the remote device which is encrypted with the temporary
10 *NEK*; and

11 determining the MAC address of the remote device from the response.

1 2. The method of Claim 1 wherein the remote device is not a member of a
2 network.

1 3. The method of Claim 2 further comprising the step of using the MAC
2 address of the remote device in a unicast transmission to reliably confirm receipt of the
3 temporary *NEK*.

1 4. The method of Claim 3 further comprising the step of using the MAC
2 address of the remote device in a unicast transmission containing a *SetNEK* message
3 with the local *NEK*.

1 5. The method of Claim 4 further comprising the step of using the MAC
2 address of the remote device in an additional unicast transmission which is encrypted
3 with the local *NEK*, for purposes of confirming receipt of the local *NEK*.

1 6. The method of Claim 2 further comprising the steps of:
2 using the determined MAC address to reliably send the local *NEK*;
3 preparing a unicast message to the remote device containing a *SetNEK*
4 request where the *SetNEK* request contains a unique, temporary *NEK*;
5 encrypting the unicast message with the DEK of the remote device;
6 transmitting the unicast message on the medium; and
7 confirming receipt of the temporary *NEK* by sending a request that
8 requires a response which is encrypted with the temporary *NEK*.

1 7. The method recited in Claim 1, wherein the network is a powerline
2 network.

1 8. The method recited in Claim 1, wherein the remote devices are
2 implemented according to the HomePlug Powerline Alliance standard.

1 9. The method of Claim 1 wherein the request is a request statistics MME
2 and the response is a statistic response MME.

1 10. The method of Claim 1 wherein the request is a request channel
2 estimation MME and the response is a channel estimation response.